Vertical Stratification of Scolytinae (Coleoptera, Curculionidae) in a Fragment of Cerrado Physiognomy in Southwestern Brazil

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The cerrado is the second largest biome, and considered to present the largest biodiversity, in Brazil. Despite its importance, comparatively to other biomes, little is known about this biodiversity. Scolytinae beetles (Curculionidae) are very important forest insects, and a very diverse group. Different species might occupy different levels of a habitat, from ground to the canopy, and indicate resource partitioning, resulting in different attack distributions. We were interested in investigating the assemblages of Scolytinae at different height levels of a cerrado fragment, physiognomy cerradão. The study was conducted in a well preserved 60-ha cerradão fragment (20º20'09.56"S 51º24'38.59"W) in Selvíria, state of Mato Grosso do Sul, Brazil. We used 95% ethanol flight intercept traps, placed at ground level, 2-, 4-, 6- and 8 m above ground level, where the highest trap reached the lower canopy of the trees in the fragment. Traps were serviced weekly from September 2010 until October 2011. Statistical comparisons were done for the most abundant species. Some species were significantly more trapped at ground level, as observed in *Xyleborus affinis* and *Xyleborus ferrugineus*. *Premnobius cavipennis* showed an intermediate flight behavior, being more trapped on 2- and 4-m height traps, while *Xylosandrus retusus* proved to have a broader flight pattern, being statistically more trapped at heights between 2 m and 8 m. All analyzed species showed a similar behavior year-round, with one exception, *Xyleborus spinulosus*, which presented a shift according to the season. During the rainy season, it was more trapped from ground level until 4-m high traps, while during the dry season they were more trapped in the range from 2 m until 8 m height. Results show that Scolytinae species vary in their flight pattern, which probably reflects a behavior related to the preferred food material they exploit, which also could reduce competition for food.

Keywords: flight intercept trap; ambrosia beetles; food competition.